Ericsson Cradlepoint W1850

2024 - 11 - 08

Designed for branches that require the higher performance of 5G and the flexibility of wireless, the Ericsson Cradlepoint W1850 5G wideband adapter ushers in the next generation of Wireless WAN networking. The W-Series is designed to accommodate the diverse spectrums, multiple generations, and breadth of new technologies introduced in 5G while delivering enterprise-class standards of scalability, comprehensive management, and security.

High Performance Wideband

The W1850 5G adapters are purpose-built for deployment in the high-performance low-, mid-band 5G spectrum. To address the tradeoff of lower propagation in the mid-band spectrum, Ericsson designed the W-Series adapter to be placed separately from the router for optimal signal reception. The stylized W1850 5G adapter is designated for optimal indoor placement.

Designed for Enterprise-Class Business

While the performance of 5G is top of mind, the W-Series was also designed with enterprise-class standards for high scalability, comprehensive management, and security. Representing the latest available 5G standards which are a collection of spectrum, technologies, and network infrastructure enhancements, the Ericsson 5G edge networking service and endpoints accommodate the diverse deployments of an organization with hundreds or even tens of thousands of sites.

Product Page

Ericsson NetCloud Service
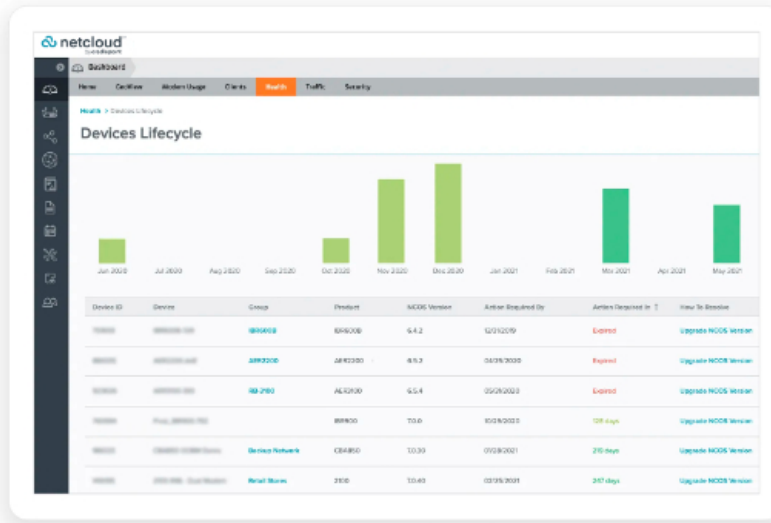
Quick Start Guide

Notable Benefits

— Increase the size and types of your WAN use cases with 5G performance

— Experience the dependability of dual connectivity with simultaneous 5G and 4G connections

— Gain carrier-class connectivity using a software-defined modem and integrated multilevel test and recovery utilities

— Deploy an enterprise-class 5G solution with greater simplicity and confidence with the wizard-based installation application

— Manage the Ericsson Cradlepoint router and 5G adapter as one entity for singular control and visibility

— Evaluate the benefits of your 5G service with value confirmation tools built into the Ericsson NetCloud platform

— Reduce truck rolls with advanced Out-of-Band Management

— Deploy within any existing networking or SD-WAN environment

Carrier-Class Connectivity

Although each network operator conforms to 3GPP standards, they implement those standards differently to gain optimal efficiency and performance from their network. Additionally, software from modem manufacturers is designed to serve multiple operators within broad markets. The W-Series uses a customized software-defined modem, pre-programmed endpoints, and multilevel integrity testing to predict vulnerable connections and deliver carrier-class connectivity.
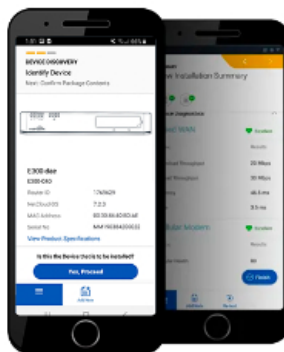
5G Spectrum Solutions

The W-Series portfolio supports all spectrum layers ensuring that organizations have the right solution for every location. The W1850 5G adapters support low- and mid-band layers.

Support for a Full Range of Cellular Technologies

Ericsson 5G solutions support all cellular generations, from 4G LTE to Gigabit-Class LTE to 5G — with the ability to gracefully transition tens of thousands of sites between generations as technology becomes available in individual locations.

Complete Lifecycle Management

Ericsson 5G solutions help enterprises minimize complexity from installation to troubleshooting with tools and features such as the mobile installation application, the captive modem feature, 5G tools demonstrate 5G service value, and Out-of-Band Management.

Intelligent Hybrid WAN Connectivity

Ericsson 5G solutions deliver effortless wireless endpoint management in a "wired-first SD-WAN" environment and provides all-in-one capabilities (routing, embedded wireless, and foundational SD-WAN) in a "wireless-first SD-WAN" deployment.

Hardware Specifications

The following features are delivered through the hardware.

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INTERFACES

Modem:	One of the following: — Embedded 5G FR1 NSA/SA 3GPP release 15 and 4G LTE Category 20 modem, including 4 x SMA cellular antenna connectors — Embedded 5G FR1 NSA/SA 3GPP release 16 and 4G LTE Category 19 modem, including 4 x SMA cellular antenna connectors
Ethernet:	2 x 2.5 GbE RJ45 (LAN/WAN switchable)
Expansion/Console:	— 1 USB 2.0 Type A (output 5 V, 500 mA, 2.5 W) — 1 RJ-45 Console
Wi-Fi:	N/A

ENVIRONMENTAL

Temperature:	— Operating: 32 °F to 122 °F (0 °C to 50 °C) — Storage: -40 °F to 185 °F (-40 °C to 85 °C)
Humidity:	— Operating: 10% to 90% — Storage: 5% to 95%
Ingress Protection:	N/A

POWER

Required:	One of the following: — External AC power supply, 100-240 VAC input (included) — 802.3at PSE Type 2 (30 W)
Consumption:	PoE: — 802.3at Class 4 PD (30 W)

PHYSICAL

Size:	165.1 x 165.1 x 38.1 mm (6.5 x 6.5 x 1.5 in)
Weight:	0.86 kg (1 lb 14.4 oz)

RELIABILITY

Calculated MTBF:	— W1850-5GB: 621,367 hours (Telcordia SR332 at 25 °C) — W1850-5GC: 346,108 hours (Telcordia SR332 at 25 °C)

CERTIFICATIONS

Safety:	— UL/cUL — CB Scheme — EN 60950-1 — EN 62368-1

Materials:	— WEEE
	— RoHS
	— REACH
	— California Prop 65
CLOUD SERVICES	
Service Plans:	Ericsson NetCloud Service for Branch 5G Adapter
Service Add-Ons:	NetCloud Exchange, Ericsson NetCloud Advanced
Support:	Ericsson NetCloud packages include support for the full subscription term.
Warranty:	All Ericsson Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an active Ericsson NetCloud Service plan.
Device Management:	NetCloud Manager for the full subscription term.
Software Updates:	NetCloud Manager for the full subscription term.
PERFORMANCE	
IP Passthrough Mode Throughput:	2.0 Gbps
Standard NAT Mode Throughput:	2.0 Gbps
Captive Modem Mode Throughput:	2.0 Gbps
LEDs	
	Refer to the W1850 5G Wideband Adapter Quick Start Guide

Performance testing was conducted based on requirements as defined in RFC2544 using fixed-frame 1518-byte packets. Throughput results reflect uni-directional UDP traffic with less than 1% packet loss as tested with wired connections. Results do not reflect performance of the cellular wireless operator networks.

Enterprise-Class Modem Specifications

SPECIFICATION	W1850-5GB
Technology:	5G FR1 NSA/SA and 4G LTE
	— LTE Advanced Pro Category 20
	— Dual SIM slots, 4FF form factor
	— 3GPP Release 15
3G:	WCDMA/UMTS/HSPA+

Carrier Aggregation:	LTE Only
	— Downlink: Up to 7CA
	— Uplink: Up to 2CA
	LTE + 5G NR ENDC
	— Downlink: 1CA
	— Uplink: 1CA
	See Understanding Carrier Aggregation.
Peak Rates:	— Downlink: Up to 4.14 Gbps
	— Uplink: Up to 660 Mbps
MIMO:	4x4 MIMO
Modulation:	5GB FR1
	— Downlink: Up to 256 QAM
	— Uplink: Up to 256 QAM. (Only enabled on particular carrier equipment from 9190 data sheet.)
4G/LTE Bands:	FDD
	— B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B7 (2600), B8 (900), B12 (700), B13 (700), B14 (700), B17 (700), B18 (850), B19 (850), B20 (800), B25 (1900), B26 (850), B28 (700), B29 (700), B30 (2300), B32 (1500), B66 (1700), B71 (600)
	TDD
	— B34 (2000), B38 (2600), B39 (1900), B40 (2300), B41 (2500), B42 (3500), B43 (3700), B46 (5200), B48 (3500)
5G NR Bands:	NSA and SA
	— n1 (2100), n2 (1900), n3 (1800), n5 (850), n7 (2600), n8 (900), n12 (700), n20 (800), n25 (1900), n26 (850), n28 (700), n38 (2600), n40 (2300), n41 (2500), n48 (3500), n66 (1700/2100), n71 (600), n77 (3700), n78 (3500), n79 (4900)
3G Bands:	B1, B2, B3, B4, B5, B6, B8, B9, B19
Power:	LTE
	— LTE bands: 23 dBm ± 1 (typical conducted)
	— LTE HPUE: 25 dBm ± 1 (B41 standalone mode only)
	LTE + 5G NR ENDC
	— LTE + 5G NR: 20 dBm ± 1 (typical conducted)
	5G NR
	— 5G NR bands: 23 dBm ± 1.5 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4, included)
GNSS/GPS:	Passive GNSS (multiplex with DIV/MIMO2 antenna ports)

SMS:	Yes
Regulatory:	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)
Network Operator Standards:	PTCRB (U.S., Canada), GCF (Worldwide)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html[†]
PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications:	AT&T, T-Mobile, Verizon[†]
Public Safety Network Certifications:	FirstNet Trusted™, T-Mobile Connecting Heroes, Verizon Frontline
Private Cellular Network:	Yes, includes FCC Part 96 (CBRS Band 48)

[†]Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications, to operate on their network. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.
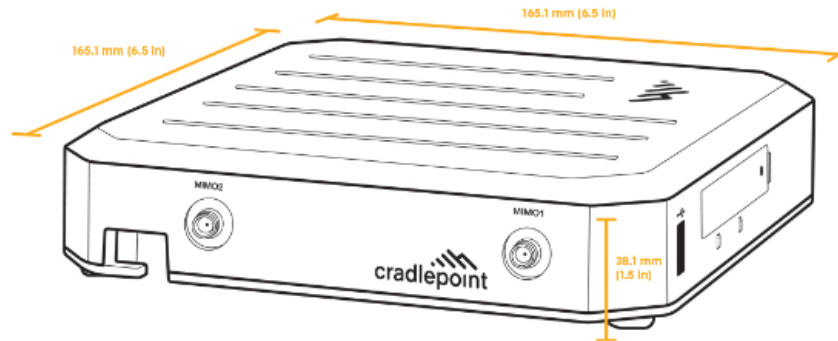
SPECIFICATION	W1850-5GC
Technology:	5G FR1 NSA/SA — LTE Advanced Pro Category 19 fallback — Dual SIM slots, 4FF form factor — 3GPP Release 16
3G:	WCDMA/HSPA+
Carrier Aggregation:	LTE Only — Downlink: Up to 5CA — Uplink: Up to 2CA LTE + 5G NR ENDC — Downlink: Up to 4CA (LTE) + Up to 1CA (5G NR) — Uplink: Up to 2CA (LTE) + Up to 2CA (5G NR) 5G NR Only — Downlink: Up to 2CA — Uplink: 1CA See Understanding Carrier Aggregation.

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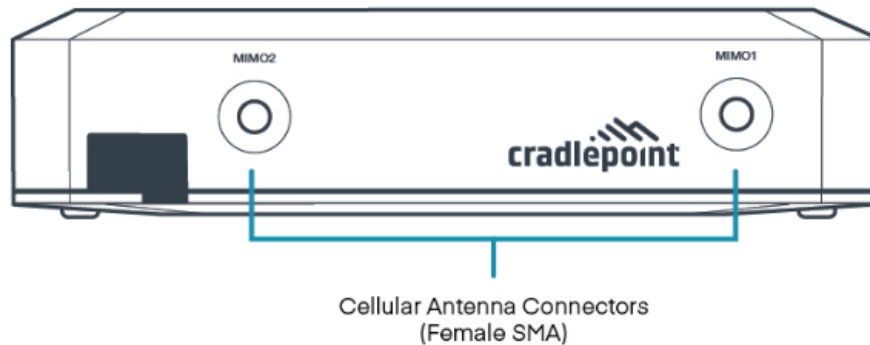| Peak Rates:	NSA
	— Downlink: Up to 3.4 Gbps
	— Uplink: Up to 550 Mbps
	SA
	— Downlink: Up to 2.4 Gbps
	— Uplink: Up to 450 Mbps
	LTE
	— Downlink: Up to 1.6 Gbps
	— Uplink: Up to 200 Mbps
MIMO:	4x4 MIMO
Modulation:	5GC FR1
	— Downlink: Up to 256 QAM
	— Uplink: Up to 256 QAM
4G/LTE Bands:	FDD
	— B1 (2100), B2 (1900), B3 (1800), B4 (1700), B5 (850), B7 (2600), B8 (900), B12 (700), B13 (700), B14 (700), B17 (700), B18 (850), B19 (850), B20 (800), B25 (1900), B26 (850), B28 (700), B29 (700), B30 (2300), B32 (1500), B66 (1700), B71 (600)
	TDD
	— B34 (2000), B38 (2600), B39 (1900), B40 (2300), B41 (2500), B42 (3500), B43 (3700), B46 (5200), B48 (3500)
5G NR Bands:	NSA and SA
	— n1 (2100), n2 (1900), n3 (1800), n5 (850), n7 (2600), n8 (900), n12 (700), n13 (700), n14 (700), n18 (850), n20 (800), n25 (1900), n26 (850), n28 (700), n29 (700), n30 (2300), n38 (2600), n40 (2300), n41 (2500), n48 (3500), n66 (1700/2100), n70 (2000), n71 (600), n75 (1500), n76 (1500), n77 (3700), n78 (3500), n79 (4900)
3G Bands:	B1, B2, B4, B5, B8, B19
Power:	LTE
	— LTE bands: 23 dBm ± 2 (typical conducted)
	— LTE HPUE bands: 26 dBm ± 2 (typical conducted)
	5G NR
	— 5G NR bands: 23 dBm ± 2 (typical conducted)
	— 5G NR HPUE bands: 26 dBm ± 2 (typical conducted)
Antennas:	SMA female connectors, external 600 MHz - 6 GHz cellular paddle antennas (Qty 4, included)
GNSS/GPS:	Passive GNSS (multiplex with DIV/MIMO2 antenna ports)
	— GPS, GLONASS, BeiDou, Galileo, QZSS
SMS:	Yes

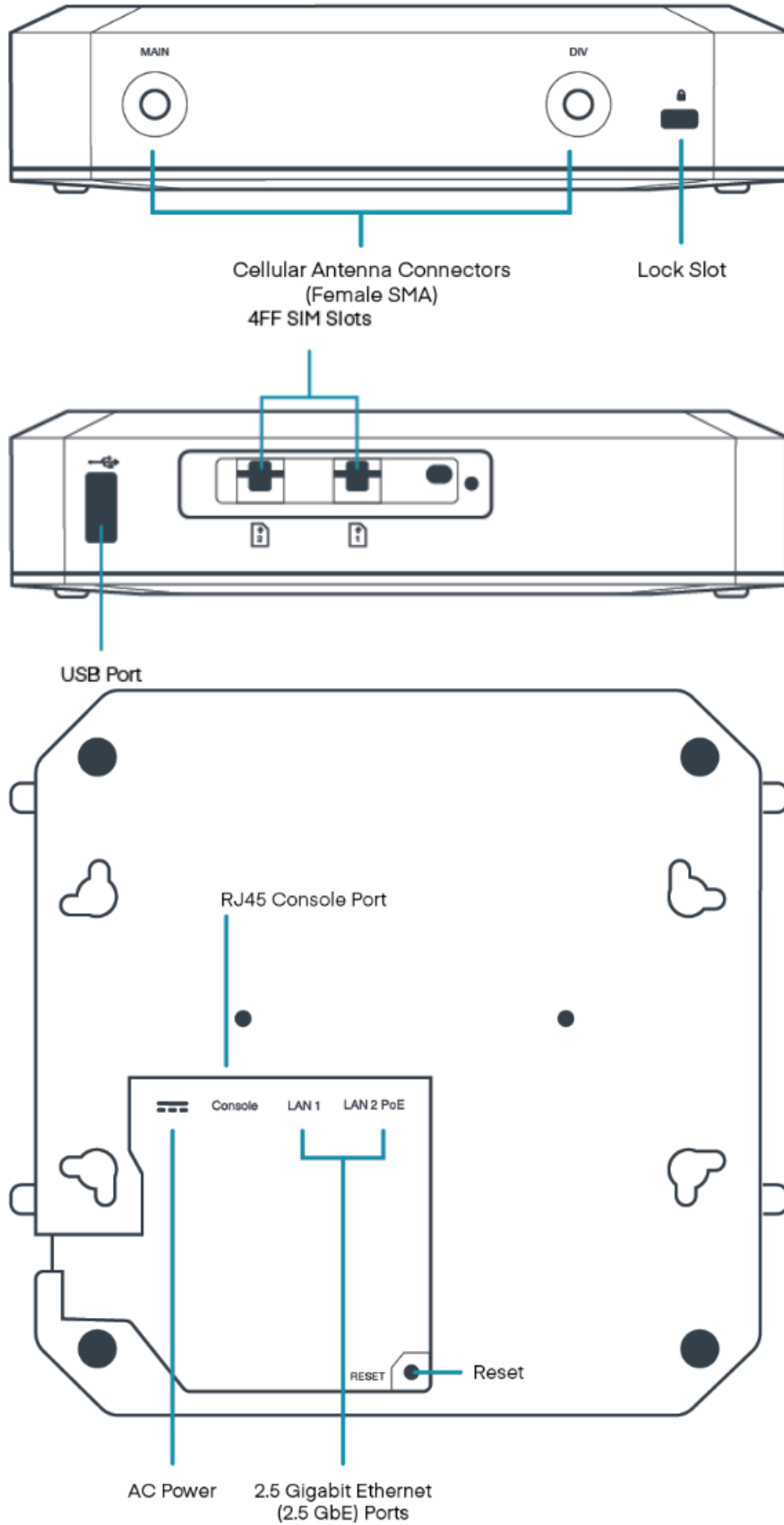| Regulatory:	FCC (U.S.), IC (Canada), CE (EU), RCM (AU/NZ)
Network Operator Standards:	PTCRB (U.S., Canada), GCF (Worldwide)
GCF Global Operators:	https://www.globalcertificationforum.org/membership/gcf-members.html[†]
PTCRB North America Operators:	https://www.ptcrb.com/about/
Network Operator Certifications:	AT&T, T-Mobile, Verizon[†]
Public Safety Network Certifications:	FirstNet Trusted™, T-Mobile Connecting Heroes, Verizon Frontline
Private Cellular Network:	Yes, includes FCC Part 96 (CBRS Band 48)

[†]Cellular carriers and operators throughout the world may only require telecom industry certifications, like PTCRB or GCF, to operate on their network. Some carriers require additional testing and approval, beyond telecom certifications, to operate on their network. A carrier listed in the approvals section means Cradlepoint completed additional testing and acquired technical approval for that given carrier. Any carrier not listed may not require additional testing or approval beyond telecom industry certifications to operate on their network.

Physical Measurements & Features

Features

Cellular Antenna Connectors
(Female SMA)

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MAIN   DIV

Cellular Antenna Connectors   Lock Slot
(Female SMA)
4FF SIM Slots

USB Port

RJ45 Console Port

Console   LAN 1   LAN 2 PoE

RESET   Reset

AC Power   2.5 Gigabit Ethernet
(2.5 GbE) Ports

SIM Card Info

Ordering Guide

Ericsson NetCloud Branch 5G Adapter Essentials + Advanced packages and plans full featured for 5G performance and connectivity. Essentials + Advanced packages include 24x7 support (phone support: 24-hour weekdays with emergency response on weekends, web: 24x7, chat: 24x5) and a limited lifetime warranty.

See additional details of what is included in the Essentials + Advanced NetCloud software: cradlepoint.com/netcloud-service

Ericsson NetCloud Enterprise Branch Packages for the W1850

REGION	MODEM	PACKAGE PLAN	PART NUMBER
North America: U.S., Canada, Mexico	5GB	Essentials	BE0x-18505GB-GN
		Essentials + Advanced	BEAx-18505GB-GN
North America & Latin America: U.S., Canada, Chile, Columbia, Costa Rica	5GC	Essentials	BE0x-18505GC-GN
		Essentials + Advanced	BEAx-1850-5GC-GN
United States: Federal Government	5GB	TAA Compliant NC — Essentials	TAA-BE0y-18505GB-GN
		TAA Compliant NC — Essentials + Advanced	TAA-BEAy-18505GB-GN
	5GC	TAA Compliant NC — Essentials	TAA-BE0y-1850-5GC-GN
		TAA Compliant NC — Essentials + Advanced	TAA-BEAy-1850-5GC-GN
Global:	5GB	Essentials	BE0x-18505GB-GM
		Essentials + Advanced	BEAx-18505GB-GM
	5GC	Essentials	BE0x-1850-5GC-GM
		Essentials + Advanced	BEAx-1850-5GC-GM

All Regions:	Renewal — Essentials	BE0x-NCESS-R
	Renewal — Advanced	BE0x-NCADV-R
	Renewal — Essentials + Advanced	BEAx-NCEA-R

x = 1, 3, or 5 years
y = 3 or 5 years

Accessories

INCLUDED	PART NUMBER
Cable, Ethernet RJ45-to-RJ45, black, 1.5 meters	170725-000
W1850 Small Accessories Kit — SIM door screw (Qty 1) — Rubber feet (Qty 4) — Wall mount screws (Qty 2) — Anchors (Qty 2)	500062-000
One of the following: — Power Supply, 12 V Barrel (Type A) — North America (NA)/Japan — Power Supply, 12 V Barrel (Types A-G-C-I) — Global	170862-000 170863-000
Cellular Antenna, white, 600 MHz - 6 GHz, SMA, 180 mm (Qty 4) — North America/Global	170761-001

OPTIONAL	PART NUMBER
One of the following: — PoE Injector, 30 W, 802.3at with 1.8 meters C13 line cord (North America Type B) — PoE Injector, 30 W, 802.3at with 1.8 meters C13 line cord (Europe Type F) — PoE Injector, 30 W, 802.3at with 1.8 meters C13 line cord (United Kingdom Type G) — PoE Injector, 30 W, 802.3at with 1.8 meters C13 line cord (Australia Type I)	170877-000 170877-001 170877-002 170877-003
PoE Injector, 56 V, 0.8 A, 90 W, single port 2.5 GbE 802.3bt	170827-000
Power Supply, 12 V Barrel, 1.8 meters (North America Type A)	170862-000
Rollover Adapter for RJ45 Ethernet M/F	170662-000
Rollover Serial Cable, RJ45-RJ45 Gray, 2.1 meters	170663-000
Rollover Serial Cable, RJ45-RJ45 Gray, 4.3 meters	170663-001
One of the following: — Line Cord, 125 V, C13, 1.8 meters (North America Type B) — Line Cord, 250 V, C13, 1.8 meters (Europe Type F) — Line Cord, 250 V, C13, 1.8 meters (United Kingdom Type G) — Line Cord, 250 V, C13, 1.8 meters (Australia Type I)	170671-001 170671-002 170671-003 170671-004
Drop Ceiling Mounting Bracket	170876-001

UNITED STATES FEDERAL GOVERNMENT	PART NUMBER

Ceiling Mounting Bracket	TAA-170876-001

Support & Warranty

The W-Series adapters are only sold as components of Branch 5G Performance Adapter Essentials + Advanced Packages.

— NetCloud Packages include support for the full subscription term.

— All Cradlepoint hardware products are covered by a limited lifetime warranty for as long as they have a subscription license to an activeNetCloud Service Plan.

More Information

Find the most up-to-date information cradlepoint.com/w1850-series